

Work Order ID 149303

Friday, July 22, 2016 10:34:00 AM

149303

Page 1

Item ID: 646.2910

Revision ID:

Item Name: Deflector

Start Date: 7/22/2016 Start Qty: 6.00

Required Date: 8/18/2016 Req'd Qty: 6.00

Reference:

Accept

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals:

Process Plan: dmDate: 16/07/22

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
646.2900	N/C								
100	Cut blanks as per folio	0.00							
100									
Bandsaw	Memo	0.00							
Jeaspa Bandsaw	42.600" long								
110		0.00							
110									
HAAS 1	Memo	0.46							
HAAS CNC vertical machine #1									
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
120									
QC	Memo	0.01							
Quality Control									

DAS
14
9-29

16/08/26

16-8-28

16-8-28

DQA: _____ Date: _____

QA Closed: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐
Machining ☐
Thermoforming ☐
Large Fab ☐

Cross tube ☐
Small Fab ☐
Finishing ☐
Composite ☐

Water Jet ☐
Prod. Eng. Coord. ☐
Rec/Store/Packaging ☐
Supplier ☐

Engineering ☐
Quality ☐
Other ☐

Date: _____

Step #: _____

QTY Effective: _____

Description Work Order Deviation

Disposition

MRB (QSI042) Approval

Completed By

Lead hand / Supervisor
Approval Verification

QC / QA Coordinator
Approval

Root Cause

Environment ☐	No Re-verification ☐
Design ☐	Operator ☐
Doc/Data ☐	Offset/Setup ☐
Equip/Tooling ☐	Supplier ☐
Handling/Pre ☐	Training ☐
Material ☐	Use for Testing ☐
Internal Transport ☐	Poor Information ☐
Tribal Knowledge ☐	Rushing ☐
LOA ☐	Product Improvement ☐
Substation ☐	Process Improvement ☐
Past Expiry Date ☐	Manufacturing Process ☐
Misidentified ☐	Past Due ☐

Pressure/Forced ☐
Bending ☐
Centre Not Concentric ☐
Cracks ☐
Crimp/Kink/Ripple/Wave ☐
Cuffs ☐
Crushing ☐
Heat Treat ☐
Wave/Twist in Tube ☐
Marks/Chatter ☐

FAULT CATEGORY

Temperature/Cure ☐
Set-up ☐
BOM/Route ☐
Broken/Damage/Defect ☐
Inspection Incomplete/Unqualified ☐
Contamination ☐
Countersink ☐
Cut Too Short ☐
Instructions Incomplete/Unclear ☐
Drill Holes ☐

Power Loss/Surge ☐
Folio/Program ☐
Grain ☐
Weld ☐
Wrong Stock Pulled ☐
Out of Sequence ☐
Off-set ☐
Misabeled ☐
Fit/Function ☐
Misaligned/off center ☐

Positioned Wrong ☐
Outside Dimensions ☐
Over/Under tolerance ☐
Part Incorrect ☐
Part Lost/Missing ☐
Part Moved ☐
Drawing ☐
Finish ☐
Misread ☐
Turning Sequence ☐

OTHER: _____

Friday, July 22, 2016 10:34:00 AM

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Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Stop *NS2*

Start Date: 7/22/2016 **Start Qty:** 6.00 ***6***

Cust Item ID:

Required Date: 8/18/2016 **Req'd Qty:** 6.00 ***6***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification ☐	☐	Pressure/Forced ☐	☐	Temperature/Cure ☐	☐
Design ☐	☐	Operator ☐	☐	Bending ☐	☐	Set-up ☐	☐
Doc/Data ☐	☐	Offset/Setup ☐	☐	Centre Not Concentric ☐	☐	BOM/Route ☐	☐
Equip/Tooling ☐	☐	Supplier ☐	☐	Cracks ☐	☐	Broken/Damage/Defect ☐	☐
Handling/Pre ☐	☐	Training ☐	☐	Crimp/Kink/Ripple/Wave ☐	☐	Inspection Incomplete/Unqualified ☐	☐
Material ☐	☐	Use for Testing ☐	☐	Cuffs ☐	☐	Contamination ☐	☐
Internal Transport ☐	☐	Poor Information ☐	☐	Crushing ☐	☐	Countersink ☐	☐
Tribal Knowledge ☐	☐	Rushing ☐	☐	Heat Treat ☐	☐	Cut Too Short ☐	☐
LOA ☐	☐	Product Improvement ☐	☐	Wave/Twist in Tube ☐	☐	Instructions Incomplete/Unclear ☐	☐
Substation ☐	☐	Process Improvement ☐	☐	Marks/Chatter ☐	☐	Drill Holes ☐	☐
Past Expiry Date ☐	☐	Manufacturing Process ☐	☐	OTHER : _____			
Misidentified ☐	☐	Past Due ☐	☐				

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
155	QC5- Inspect part completeness to step on W/O	0.00							DAS 38 9-89
155									
QC	Memo	0.02				6			OCT 11 2016
Quality Control									
180	Identify as per dwg & Stock Locations <u>CLOSE</u>	0.00							
180						6	DAS 6 9-89	OCT 11 2016	
Packaging	Memo	0.01							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								
190	QC21- Final Inspection - Work Order Release	0.00					DAS 21 9-89		
190								OCT 13 2016	
QC	Memo	0.10							
Quality Control									
							DAS 21 9-89		OCT 11 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Picklist Print

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Work Order ID: 149303

149303

Parent Item: 646.2910

646 2910

Parent Item Name: Deflector

Start Date: 7/22/2016

Required Date: 8/18/2016

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A NEW ISSUE 13-04-18 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
646.2900E		Manufactured	No				f	268.0000		22.73684			

646 2900F

Deflector

Location

Loc Qty

Loc Code

MAT034

180

141689

180

MAT035

88

123832

4

126776

84

24

mf
12/08/26

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03694				SHEET 1 OF 1	
	DWG NO. 646.2900	REV: N/C	PREPARED BY B. PETERS	DATE: 11/14/12	EFFECT ON DWG ☐ INC. ☒ UNINC.	
	DWG TITLE: DEFLECTOR					
	APPROVED BY: ENGR <i>JKL</i>	MFG <i>Don Baker</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: ADDED ALTERNATE MATERIAL.				ECR: D-12-002	

IS

1 PRIMARY MATERIAL: 7075-T6 ALUMINUM PER AMS-QQ-A-225/9.
ALTERNATE MATERIAL: 7075-T6511 ALUMINUM PER AMS-QQ-A-200/11.

SHEET 1, ZONE A2 IS:

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:					CHANGE CATEGORY	DER REVIEW REQUIRED
☐ RFMS ☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM					☐ MAJOR ☒ MINOR	☐ YES ☒ NO

11/16/12 140302 20m 11/16/12

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE 03207				SHEET 1 OF 1	
	DWG NO. 646.2900		REV: N/C	PREPARED BY PB	DATE: 08/29/11	EFFECT ON DWG ☐ INC. ☒ UNINC.
	DWG TITLE: DEFLECTOR					
	APPROVED BY:	ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF:	CURRENT ORDER
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: ADDED ALTERNATE BASE MATERIAL				

SHEET 1, ZONE A2, NOTE 1 IS:

NOTES:

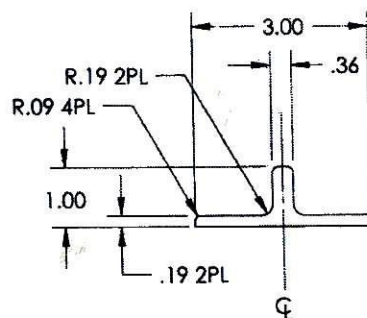
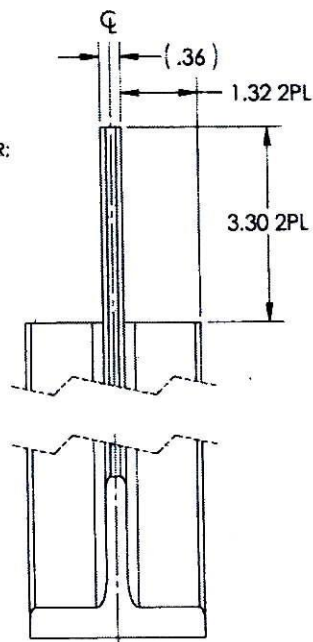
- 1 MATERIAL: 7075-T6 ALUMINUM PER AMS-QQ-A-225/9 OR AMS-QQ-A-250/12
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III CLASS 2,
COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER;
PRIME IAW MIL-P-23377J TYPE I CLASS N
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION	
DOCUMENTS EFFECTED:				☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM	CHANGE CATEGORY ☐ MAJOR ☒ MINOR	DER REVIEW REQUIRED ☐ YES ☒ NO	

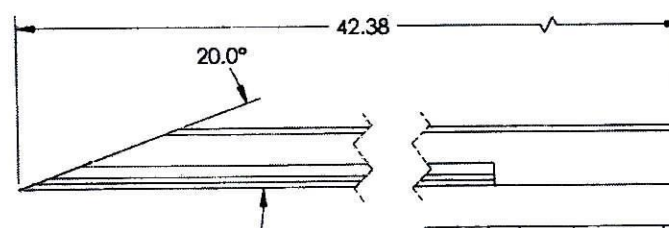
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

NOTES:

- 1 MATERIAL: 7075-T6 ALUMINUM PER AMS-QQ-A-225/9
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER; PRIME IAW MIL-P-23377 J TYPE I CLASS N
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120



646.2910



UNINCORPORATED ECN(s)

03207, 031694,

646.2910		DEFLECTOR		APICAL INDUSTRIES	
QTY	646.4000	DESCRIPTION	MATL	SPEC.	
PARTS LIST					
ORIGINAL DATE: 01/01/01 DRAWN BY: J. HEAT CHECKED BY: P. BRAYO DESIGNED BY: J. HEAT DATE: 01/01/01 CONTRACTING:					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.010 3 PLACE DECIMALS ±.005 ANGLES ±.5°					
NEXT ASSY (S)		CAGE CODE		DWG. NO.	
646.4000		B 070426		646.2900	
		SCALE		NONE	
		SHEET		1 OF 1	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO33573

Purchase Order Date 9/8/2016
PO Print Date 9/13/2016

Page Number 1 of 4

Order From :

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

VC-ATG001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

REVISED

Contact Name
Vendor Phone 613-446-4544

Ship To Contact
Ship To Phone
Ship Via: VENDOR'S TRUCK
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	149303	646.2910 deflector rev. n/c	9/22/2016 Yes 9/22/2016		6.00	\$48.00	\$288.00
FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N							Line Total: \$288.00
2	148577 ✓	646.3011 RH HALF REV. N/C	9/22/2016 Yes 9/22/2016		8.00	\$10.25	\$82.00
FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N							Line Total: \$82.00
3	150389 ✓	646.3718 CUSTOM WASHER REV. A	9/22/2016 Yes 9/22/2016		16.00	\$3.95	\$63.20
FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N							

Note:

9/13/2016

88/69-28



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 912352

Date: 06-Oct-16

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms

Ship Via

Quantity

Description

PLEASE REFERENCE THE PACK LIST NUMBER ON ALL CORRESPONDENCE TO THIS SHIPMENT.
IF YOU HAVE ANY QUESTIONS, PLEASE CALL AT (613) 446-4544.

6
ea

Part 646.2910
Deflector

Rev: N/C

Hard Anodize, Type III, Class 2 (MIL-A-8625)
Primer, MIL-P-23377J, TYPE 1, CLASS N
Job: 20083

PO: 33573

Line: 1

DATE:

6/10/16

CERTIFIED SIGNATURE:

[Signature]

RECEIVER SIGNATURE:

[Signature]

Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.

CERTIFICATE OF CONFORMANCE

A.T.G. INDUSTRIES INC. CERTIFIES THAT ALL ITEMS IN THIS SHIPMENT CONFORM TO REQUIREMENTS.

MADE IN CANADA.